

Domtar Specialty Fine Papers Ltd.

Cornwall, Ontario

"Our mill in Cornwall was using too much water and energy. We had to find ways to reduce the "once through" use which also robbed us of heat produced from heavy fuel burning boilers. The green analysis and retrofit showed us the way."

Douglas Daniels
Vice President & General Manager

THE COMPANY

Domtar Specialty Fine Papers has been operating in Cornwall since 1920. The company produces more than 20 types of fine paper which are shipped all over North America.

Until recently, Domtar used atmospheric screens in its production process to separate the debris from the pulp. These screens were inefficient on three counts.

- * First, the company had to use a large amount of water to sluice the pulp through the mechanical screens.
- * Second, this large quantity of water cooled the pulp stream down so it had to be reheated.
- * Third, they are difficult to control in order to improve the cleanliness of the pulp and increase the amount of pulp recovered.

CHALLENGE

A Ministry of Environment and Energy analysis uncovered several areas where the company could reduce its water and energy use. The design and engineering team, which Domtar set up in response to the analysis, recommended that the company convert its screening system to a "closed" screen room, operating with pressure screens.



The final plan was the latest approach to screen room equipment and design. It incorporated pressure screens, new centrifugal cleaners, and DCS controls. It also improved the recycling of filtrates.

OPPORTUNITIES

The new screen room was designed to improve operating conditions by:

- * reducing water and energy use;
- * recovering pulp from the waste stream;
- * improving the cleanliness of the pulp;
- * improving the quality and reducing the quantity of effluent.

ACTION TAKEN

Domtar installed a battery of Andritz Spout-Bauer pressure screens and DCS Honeywell controls. In addition, the company rearranged the screen room flows, modified the

filtrate/pulp washers and bought new Andritz Spout-Bauer centrifugal cleaners. Finally, the company reassigned the existing reservoirs to hold and reuse filtrates. The total cost was \$2.1 million.

ACTUAL RESULTS

The installation has produced significant benefits to the Cornwall mill by:

- * reducing the amount of effluent by 13,000 cubic metres per day;
- * raising the temperature of the screened and thickened pulp by 30C to 58C which has reduced the company's use of heavy fuel by 400,000 litres per year, cut emissions and saved \$360,000 annually;
- * recovering 1,000 kilograms of pulp a day which, under the old system, was being discharged with the effluent.

REPLICATION OPPORTUNITIES

Although this retrofit is the first of its kind in Ontario, similar installations might be applied to any kraft mill in Ontario.

PARTNERSHIP IN POLLUTION PREVENTION AND RESOURCE CONSERVATION

Industrial companies located in Ontario may participate in ministry/industry programs that will help them to:

- * use energy and water more efficiently
- * reduce, reuse and recycle solid waste, and
- * reduce or eliminate liquid effluent and gaseous emissions.

Equipment and services supply companies can benefit from the information provided on technologies identified for business development.

FOR FURTHER INFORMATION, PLEASE CONTACT

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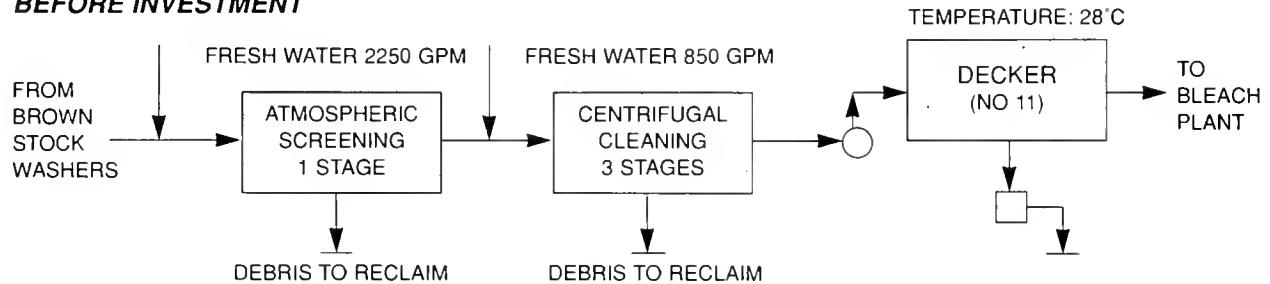
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MINISTRY OF ENVIRONMENT AND ENERGY PROGRAMS

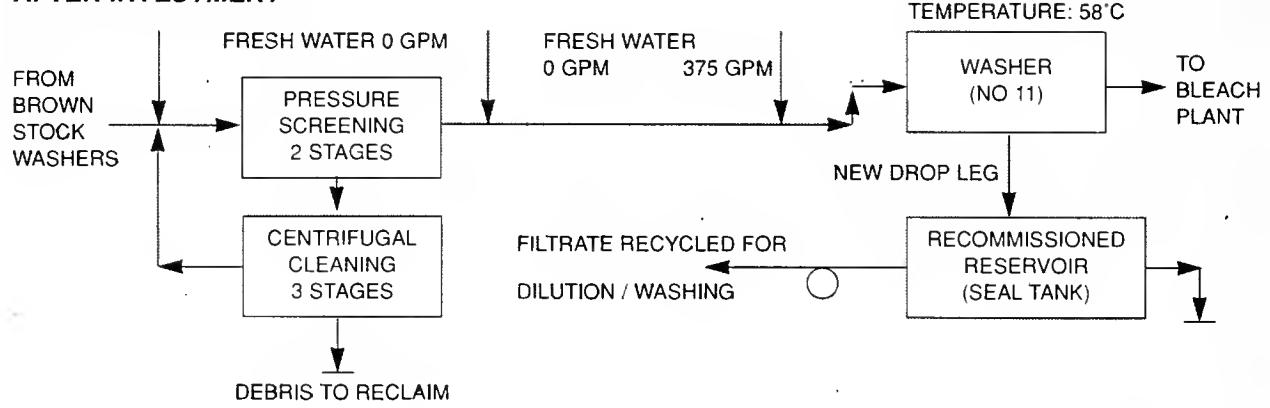
For information on Ministry of Environment and Energy assistance to industry, please contact the Industry Conservation Branch at (416)327-1443, Fax (416)327-1261

BROWN STOCK SCREEN ROOM

BEFORE INVESTMENT



AFTER INVESTMENT



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This project profile was prepared and published as a public service by Ontario Ministry of Environment and Energy. Its purpose is to transfer information to Ontario companies about industrial companies that have undertaken retrofits that improve the environment and their bottom line.



